



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/719,655

11/21/2003

Jonathan H. Fischer

45-14-2

2375

47386 7590 11/08/2007  
RYAN, MASON & LEWIS, LLP  
1300 POST ROAD  
SUITE 205  
FAIRFIELD, CT 06824

EXAMINER

MERCEDES, DISMERY E

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

11/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

---

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Application Number: 10/719,655  
Filing Date: November 21, 2003  
Appellant(s): FISCHER ET AL.

**MAILED**

**NOV 08 2007**

**Technology Center 2600**

---

Agere Systems Inc.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 8/13/2007 appealing from the Office action mailed 5/11/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,693,768	Crue et al.	2-2004
6,812,055	Tamura et al.	11-2004

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe, the claim limitation “a shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium.” It does not describe how is the shutter controlled so as to selectively (what is this selection based on?) allow or inhibit the path of the magnetic field to alter the magnetic domain of the magnetic storage medium. Furthermore it does not describe how the medium is attached and how the medium behaves when it is allowing or inhibiting the magnetic flux of the write coil. The Specification mentions actions of “open” and “close”, but these descriptions are insufficient for one of ordinary skill in the art to understand how is this “shutter” controlled (what triggers the opening or closing of the shutters) when working in the head in order to selectively allow the magnetic field to alter this magnetic domain. See *In re Wands*, 858 F.2d 731,737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1998) as appropriate. See also MPEP 57 2164.01(a) and § 2164.04. Hence, there would be undue experimentation to make and use the invention.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crue et al. (US Patent No. 6, 693,768) in view of Tamura et al. (US 6,812,055).

As to Claim 1, Crue et al. discloses a magnetic storage system, comprising: at least one write coil to generate a magnetic field for at least a plurality of bit intervals (see figs. 2-4, "44"); a magnetic storage medium (see fig. 1, "16"). Even though Crue et al. discloses altering the magnetic domains of the magnetic medium, by changing the direction of the magnetic field to change the binary data to be recorded (col. 3, lines 36-42), Crue et al. fails to specifically disclose at least one shutter at least one shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium. However, Tamura et al. discloses such (col.17, lines 5-38 wherein a MEMS device comprising a shutter to block or allow the signal level by placing a shutter into and out of the optical path--and col.18, lines 35-68 wherein the MEMS device functions as an electrical switch that are selectively closed or open, controlling the path of current flow between the electrical contacts). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system as disclosed by Crue et al. by implementing a shutter as disclosed by Tamura et al. the motivation being to provide a device that selectively generates displacement forces, which allow the MEMS electromagnetic actuator to which is the shutter is coupled to, to move in and out

Art Unit: 2627

of the path; and allows the electrical switch to be selectively open or closed (see co.1, lines 23-25 and col.18, lines 53-68).

As to Claim 2, Tamura et al. further discloses wherein having at least one pole segment to provide a loop between the write coil and the storage medium (see fig.9A and col.13, lines 15-32) (Note: limitation also disclosed by Crue et al. fig. 13 and Col. 7, lines. 54 to Col. 8, lines. 7, wherein Crue et al. teaches a loop being formed from the pole to the medium in order to be able to record a binary number.).

As to Claim 3, Tamura et al. further discloses a first write coil to generate a positive magnetic field, a second write coil to generate a negative magnetic field, and at least two shutters to selectively allow said positive or negative magnetic fields to alter said magnetic domain of said magnetic storage medium (see col.5, lines 55-65; col.18, lines 10-35 -wherein Tamura et al. discloses multiple shutters).

As to Claim 4, Crue et al. further discloses wherein said positive or negative magnetic fields alter said magnetic domain in a collocated region of said magnetic storage medium (col.3, lines 45-55).

As to Claim 5, Tamura et al. further discloses a first set of magnetic pole segments to provide a first loop between said first write coil and said magnetic storage medium and a second set of magnetic pole segments to provide a second loop between said second write coil and said magnetic storage medium (see fig.9A and col.13, lines 15-32 and col.18, lines 9-34).

As to Claim 6, Tamura et al. further discloses wherein a position of said shutter is adjusted using MEMS (see col.17, lines 5-45 and summary of invention).

As to Claim 7, Tamura et al. further discloses wherein at least one of said shutters is coated with a magnetic shielding (col.17, lines 45-50).

As to Claim 8-9, Tamura et al. further discloses wherein the magnetic shielding is comprised of Nickel; wherein the magnetic shielding is comprised of Cobalt (see col.7, lines 45-53-where the actuable material maybe comprised of nickel or cobalt and the shutters maybe coated with the same type of material as the actuable material).

As to Claims 10-13 are method claims drawn to the apparatus of claims 1,3,4,6 and therefore is rejected for similar reasons as set forth in the rejection of claim 1,3,4,6 above.

As to Claims 14-20 have the same limitations as to those treated in the rejection of claims 1-7 and are met by the references as discussed above.

#### **(10) Response to Argument**

##### **Claim Rejections - 35 USC § 112**

Appellants submits that “specific conditions under which a shutter is activated or enabled to selectively allow or block the magnetic field is a design choice, influenced by the particular shutter selected (page 4, lines 10-12, of Arguments).” However, the Examiner submits that the Appellants has, once again, failed to explain and disclose the specific conditions under which the shutter is controlled, activated or enabled to selectively allow or block the path of the magnetic field to alter the domain of the magnetic storage material. The Examiner considers that further explanation and description as to the conditions under which the shutters are activated/open/closed is very important to further understand the selection under which the shutters are operated, and to make the specification meet the enablement requirements. Therefore, it is not a matter of design choice.

Appellants submit, that based on the United States Number 5,974,207, which describes a MEMS-based actuator to move an optical device, such as a mirror, into and out of the path of the optical signal it would be obvious to one of ordinary skill in the art to use shutter such as disclosed

Art Unit: 2627

in the above patent for magnetic applications, "The operation of the shutter for magnetic applications would be obvious to a person of ordinary skill in the art, based on the teachings of the present invention, United States Patent Number 5,974,207, as well as commercially available shutter devices (page 5, lines 26-32 of Arguments)." Appellants further asserts, "The pivoting (between an open and closed position) is controlled using MEMS devices which were very well known to those of ordinary skill in the art at the time of filing, as evidenced by U.S. Patent No. 5,974,207 (page 6, lines 1-6 of Arguments.)"

Therefore, in view of Appellants own case of obviousness, as discussed above and furthermore pages 5-6 of Arguments, the Examiner believes that it would have been obvious to one of ordinary skill in the art at the time of invention to implement shutters as evidenced by U.S. Patent No. 5,974,207, for magnetic applications, as disclosed by Crue et al. U.S. Patent No.6, 693,768, in order to control (open/close) the flow of the magnetic field to selectively allow the alteration of the magnetic domain, that is disclosed by Crue et al. (col.3, lines 36-42; col.7, line 58-col.8, line 5) and as evidenced by U.S. 5,974,207.

**Claim Rejections - 35 USC § 103**

Regarding Claim 1, Appellants argues that the "Examiner has failed to establish a *prima facie* case of obviousness for at least the reason that there exists no motivation to combine the reference, and even if combinable the references collectively do not teach each and every limitation of the independent claims (page 7, lines 20-23)".

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion,



Art Unit: 2627

or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Crue et al. discloses a magnetic storage system, comprising: at least one write coil to generate a magnetic field for at least a plurality of bit intervals (see figs. 2-4, "44"); a magnetic storage medium (see fig. 1, "16"). Even though Crue et al. discloses altering the magnetic domains of the magnetic medium, by changing the direction of the magnetic field to change the binary data to be recorded (col. 3, lines 36-42; col.7, line 58-col.8, line 5, wherein Crue et al. discloses alteration of the magnetic domain by the magnetic field), Crue et al. fails to specifically disclose *at least one shutter to selectively allow* said magnetic field to alter a magnetic domain of said magnetic storage medium. However, Tamura et al. discloses such (col.17, lines 5-38 wherein a MEMS device comprising a shutter to block or allow the signal level by placing a shutter into and out of the optical path--and in col.18, lines 35-67 wherein the MEMS device functions as an electrical switch that are selectively closed or open, controlling the path of current flow between the electrical contacts). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to implement a MEMS electromagnetic actuable device having a shutter coupled therein as disclosed by Tamura et al., to the system as disclosed by Crue et al., the motivation being to provide a device that selectively generates displacement forces, which allow the actuable device coupled to the shutters, to move in and out of the magnetic field path (see co.1, lines 23-25 of Tamura), which results in selectively allowing the magnetic field to flow thereby causing alteration of the magnetic domain (as disclosed by Crue et al.).

Furthermore, based on Appellants own submission on pages 5-6 of Arguments, the Examiner believes that it would have been obvious to one of ordinary skill in the art at the time of

Art Unit: 2627

invention to implement shutters as evidenced by Tamura et al., for magnetic applications, as disclosed by Crue et al. U.S. Patent No.6, 693,768, in order to control (open/close) the flow of the magnetic field to selectively allow the alteration of the magnetic domain, that is disclosed by Crue et al. (col.3, lines 36-42; col.7, line 58-col.8, line 5) and as evidenced by U.S. 5,974,207.

Appellants further argues, "there is no suggestion to combine the magnetic storage system of Crue with the optical shutter system of Tamura, other than the hindsight provided by the present invention (page 6, lines 24-26).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Tamura et al. discloses MEMS electromagnetic device can be employed in a variety of application, including in electrical, mechanical and optical systems, and combinations thereof (col.1, lines 24-27 of Tamura et al.). Therefore, the references are properly combinable.

Furthermore, the use of optical devices (as disclosed by Tamura et al.) in magnetic devices (as disclosed by Crue et al.), is well known and established in the art. In addition, as stated by Appellants admission, it is clear that the use operation of a shutter (in an optical environment) for magnetic applications is well known and obvious to one of ordinary skill in the art (page 5, lines 30-32). Furthermore, it is also well known and appreciated in the art that electromagnetic actuators are frequently used for controlling both, optical disk drives and magnetic disk drive and in combinations thereof. As disclosed by Tamura et al. in col.4, lines 50, the MEMS actuator may be electromagnetic,

Art Unit: 2627

electrostatic or piezoelectric actuator; all well known and established in the art for positioning control of the head in both optical and hard disk drives.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

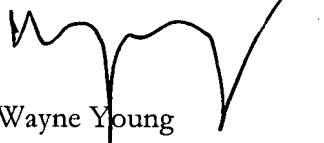
Respectfully submitted,

Dismery Mercedes

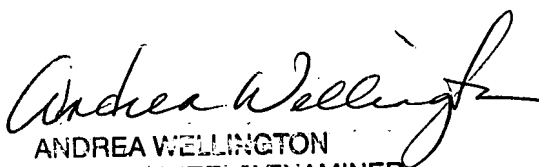


Conferees:

Andrea Wellington



Wayne Young



ANDREA WELLINGTON  
SUPERVISORY PATENT EXAMINER